# Hard TripleCross Puzzles

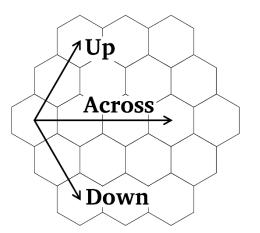
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# Instructions

This puzzle is like a crossword, but with numbers. Each digit occupies a hexagonal cell and can be a part of a "word" in the across, up, and down directions.

Rules:

- 1. "Words" may not start with a zero.
- 2. "Words" in the 'across' direction read from left to right.
- 3. "Words" in the 'up' direction read along the upward diagonal to the right.
- 4. "Words" in the 'down' direction read along the downward diagonal to the right.
- 5. There is one unique solution which satisfies all the clues given below.



Some "words" may not have clues. They will be determined by the "words" which intersect them.

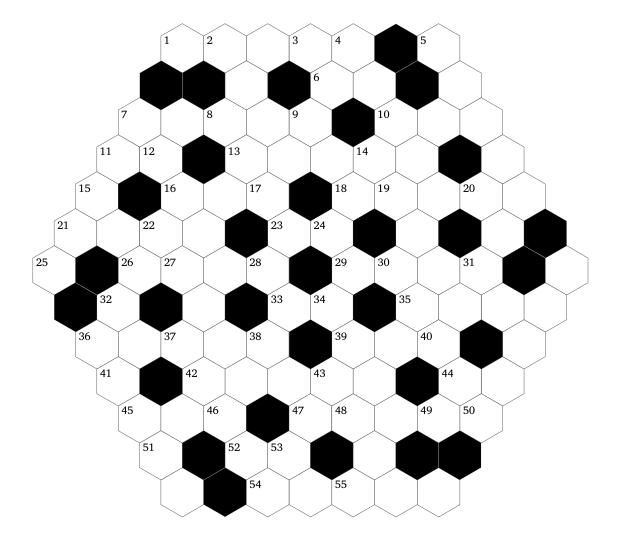
# For More Puzzles

Please visit http://3DMathPuzzles.com for more TripleCross, CrossFigure, and 3D puzzles!

# About the Author

Neil Aggarwal loves puzzles. Sometimes he is solving an existing puzzle, sometimes he is figuring out how to create new ones. Computer programming is always a good source of puzzles. So is using a new ingredient or making a new recipe. Sometimes the puzzle is to figure out how to get his 4x4 vehicle across a challenging trail. Life is full of puzzles, and he enjoys all of them. He also loves spending time with his family, friends, and dogs -- who, at times, are puzzles too!

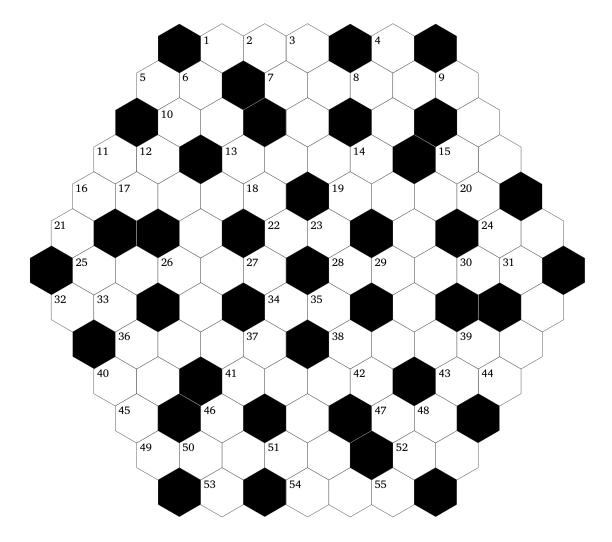




Across	Up	Down
1 Rearranged digits of 42 across	8 30 up divided by nine	<sup>2</sup> Twenty-seven times a prime number
6 28 up plus 52 across	<b>12</b> 34 up minus 41 up	3 11 across reversed
7 Last two digits are the same as last two digits of 42 across	17 Twice a prime number	4 Last three digits are the same as 9 down
10 Half of 43 down, then subtract 29 across	19 26 across minus 39 across	5 22 down minus 29 across
11 22 down divided by 8 down	20 Mean of 52 across and 8 up	7 Last two digits are the same as 49 up
13 Three thousand three hundred fifteen less than 36 across	24 4 down divided by 24 down	8 Three times a prime number
16 15 down plus 32 down	25 Eighty-eight times a prime number	9 45 across plus 41 up
18 Seventy-four times a square	27 18 across plus 26 across	14 Eight times a prime number

Across (continued)	Up (continued)	Down (continued)
21 Rearranged digits of 24 up	<b>28</b> 10 across minus 30 up	15 23 across times 24 down
23 Two-fifths of 12 up	30 28 down plus 39 across	20 Twice the result of 30 up minus 39 across
<b>26</b> Three times a prime number	346 across minus half of 3 down	<b>22</b> Fifteen thousand five hundred twenty-nine more than 7 down
29 Forty-one times a prime number	36 Twenty-three times a prime number	r <b>24</b> 33 across minus 34 up
33 Twice a prime number	37 Four times a prime number	28 20 down minus 3 down
35 Twelve times a prime number	40 Six times a prime number	301 across minus half of 31 down
36 Two hundred one less than 37 down	41 24 up divided by 11 across	31 Ten times a prime number
<b>39</b> 30 up minus 3 down	46 Half of 14 down, then subtract 25 up	32 Mean of 11 across and 8 up
42 Last two digits are the same as last two digits of 2 down	48 Seven times a prime number	34 Three times a prime number
44 34 up minus 24 down	49 Sum of digits in 34 down	36 Twenty-nine times a prime number
45 38 down reversed	50 Mean of 13 across and 8 up	<b>37</b> Half of 5 down, then subtract 36 down
<b>47</b> Twenty-two thousand three hundred forty-five more than 18 across	51 Fifty-five times a prime number	38 45 across reversed
52 Mean of 11 across and 53 down	54 Twice a prime number	43 First two digits are the same as first two digits of 22 down
54 A prime number	557 across divided by 38 down	53 Sum of digits in 45 across





# Across

- 1 45 up divided by 43 across
- 5 17 up minus 37 down
- 7 Half of 25 across, then subtract 8 down
- 10 Mean of 39 down and 33 up
- 11 50 down minus 15 across
- 13 41 across plus 26 down
- 15 Mean of 8 up and 39 down

#### 16 A square

19 Half of 13 across, then subtract 3 down

# Up

7 32 up minus 48 down
8 48 down plus 34 across
17 43 across plus 37 down

18 Forty-six times 31 up

- 20 5 across minus 39 down
- 21 Mean of 1 across and 31 up
- 23 Nine thousand seven hundred twenty-seven less than 50 up
  26 Mean of 29 down and 30 up
- $\mathbf{27}$  Mean of 30 up and 11 down

#### Down

2 21 down minus 12 down

- 3 27 up plus 11 across
- 4 27 down minus 32 across

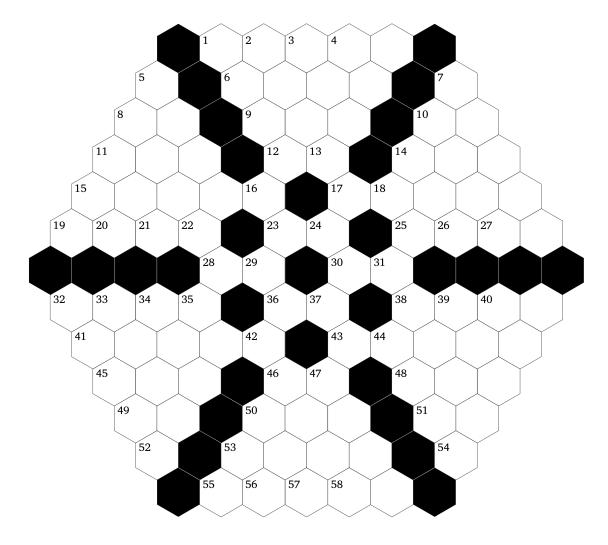
5 Mean of 5 across and 51 down
6 Eighty-three times a prime number
8 5 across minus 11 down
9 Twenty-five times 20 up

# 11 A square

12 Twenty-one times 23 down

Across (continued)	Up (continued)	Down (continued)
22 15 across minus 32 up	<b>29</b> Six thousand seven hundred forty- four more than 25 across	1451 up minus 4 down
24 51 down minus 22 across	30 47 across plus 40 across	15 A prime number
25 Last two digits are the same as last two digits of 14 down	31 Mean of 48 down and 54 up	21 Four times a prime number
28 Half of 55 up, then subtract 29 up	32 Mean of 22 across and 40 up	23 A square
<b>32</b> 43 across minus 32 up	33 Mean of 27 up and 5 across	<b>26</b> Eighty-five times a prime number
34 43 across minus 27 up	35 A square	<b>27</b> 23 down minus 7 up
<b>36</b> Four times a prime number	40 Twice the result of 20 up plus 52 across	29 27 down times 40 across
38 Last two digits are the same as last two digits of 21 down	42 Twice the result of 12 down plus 32 across	2 35 Three times a prime number
40 A square	44 Same as 1 across	37 First two digits are the same as 27 up
41 Fifty-nine times 5 down	45 44 up times 43 across	<b>39</b> 43 across minus 20 up
4311 down plus 8 down	50 6 down plus half of 18 up	40 Its digits total 47 across
47 33 up minus 8 down	<b>51</b> A prime number	<b>46</b> 33 up minus 11 down
<b>49</b> First two digits are the same as 43 across	53 34 across minus half of 22 across	48 15 across minus 31 up
52 50 down divided by seven	54 Mean of 32 up and 15 across	50 47 across plus 39 down
54 Mean of 39 down and 44 up	55 Twenty-six times a prime number	51 26 down divided by 11 across





#### Across

- 1 Last two digits are the same as 4 down
- 610 down minus 19 across
- 8 23 across minus 30 across
- 9 45 up plus 41 up
- 10 Mean of 24 down and 37 up
- 11 Half of 38 across, then subtract 5 down
- 12 29 down minus 53 down
- 14 Rearranged digits of 11 down
- 15 One hundred thirty-four more than 22 53 down reversed 17 across

# Up

- 69 across minus 9 up
- 9 Mean of 48 across and 30 across
- 13 Thirty-five times a prime number
- **16** Eighty-four times a prime number
- 18 Nine times a prime number
- 19 Three thousand six hundred fiftyeight more than 55 across
- 20 Twice the result of 25 across minus 8 across
- 21 26 up minus 50 across

# Down

- 1 Mean of 19 across and 16 down
- **2** Twenty-two times a square
- 3 44 up plus 50 across
- 4 37 down minus 44 up
- 5 29 down times 46 across
- 7 Five thousand five hundred one less than 42 down
- 8 Twenty-seven times a prime number
- **10** Eleven times a prime number
- 11 11 across plus 10 across

- 17 Last two digits are the same as 40 down
- **19** Twice a prime number
- 23 Mean of 29 down and 37 down
- 25 Mean of 36 across and 20 up
- 28 45 across minus 23 across
- 30 40 down minus half of 37 down
- 32 Two hundred twenty-five more than 20 up
- 36 32 down divided by 14 across
- 38 Twice a prime number
- 41 Nineteen thousand thirty-four less than 15 across
- 43 Three times a prime number
- 45 2 down minus 1 across
- 46 44 up plus 51 across

48 3 down plus 10 across 49 Mean of 23 across and 4 down 50 Twenty-two times 51 across 51 4 down minus 6 up 53 44 down minus 39 down 55 Mean of 15 across and 3 down

# Up (continued)

24 51 across plus 4 down

- 26 Three times a prime number
- 27 50 down minus 45 across
- 29 46 across plus 42 up
- 31 50 across times 4 down
- 37 24 up reversed
- 41 18 down minus half of 22 up

#### 42 A square

44 51 up divided by 30 across 45 50 down minus 18 down

48 Mean of 39 down and 37 up 49 Seven times a prime number 51 Six hundred fifty-seven less than 47 39 57 up minus 30 across down 52 19 across minus half of 10 across 54 Twice a prime number 55 31 down minus half of 7 down 56 Sixty-one times a square 57 Twelve times a prime number

58 Mean of 27 up and 24 down

# Down (continued)

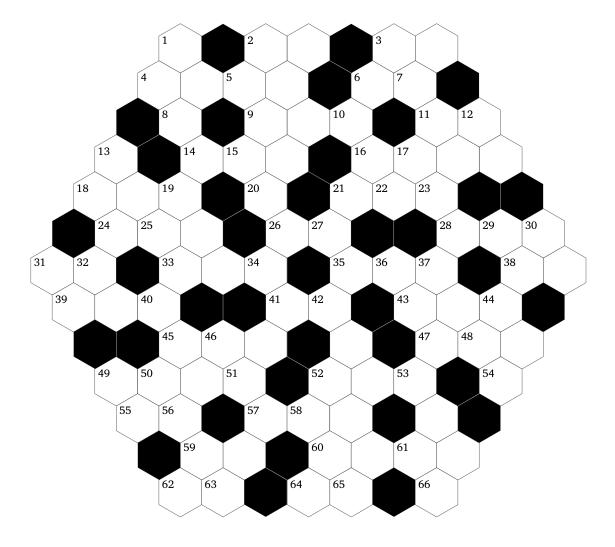
14 Twenty-three times a prime number

- 15 Same as 23 across
- 16 Mean of 29 up and 36 across
- 18 Mean of 16 down and 29 down
- 24 Mean of 46 across and 24 up
- 29 35 down minus 51 across
- **31** First two digits are the same as first two digits of 51 up
- **32** Ten thousand three hundred sixty less than 16 up 33 Five times 11 down
- 34 48 across plus 28 across

35 41 across divided by 21 up 37 Twice 22 up

40 44 up reversed 42 A prime number 441 down plus 26 up 47 53 across minus 29 up 50 40 down plus 45 across 53 28 across minus 58 up





# Across

- 2 Half of 52 across, then subtract 2 down
- 3 21 across minus 10 down
- 4 43 across times 42 up
- 612 down plus 3 across
- 931 down times 55 across
- 11 42 down minus 57 across
- 14 18 across minus half of 34 up
- 16 Mean of 3 down and 58 down
- 18 Twice 51 up
- 21 10 up minus 31 down

# Up

4 Mean of 44 down and 6 across

- 5 Mean of 55 across and 29 down7 Twice the result of 38 across plus 54 up
- 8 51 up minus 10 down
- 10 Mean of 2 across and 22 up
- 15 A prime number
- 18 31 across plus half of 62 up
- 20 Mean of 2 down and 22 up
- **22** 66 up plus 33 across
- 23 Four times a prime number

#### Down

1 53 down divided by three

**2**17 down plus 44 down

- 3 Twenty-three times a prime number
- 42 down plus 43 up
- 5 Mean of 22 up and 21 across
- 10 A square
- 12 Mean of 27 down and 30 down
- 13 3 across times 59 across
- 15 Mean of 18 up and 40 up
- 17 27 down plus 46 down

24 20 up minus 43 across 26 47 across minus 40 up 28 64 up minus 39 up 31 39 across minus 4 down **33** 20 up minus 5 up 35 4 down plus 8 up 38 54 up minus 49 down 39 Twice the result of 33 across minus 48 Mean of 4 down and 3 down 6 across 41 2 across minus 38 across 43 24 across plus 54 up 45 9 across minus 5 up 47 34 down plus 58 up 49 Forty-four times a prime number 52 40 down plus 34 down 55 A cube 57 10 down minus 32 down 59 2 across plus 34 down 60 56 up plus half of 27 up 62 53 up minus 21 across 64 31 down plus 44 down

# Up (continued)

25 35 across minus 15 down 27 58 down minus 10 up 34 11 across minus 62 up 39 Twice a prime number 40 45 across minus 66 up 42 A cube 43 25 up minus 42 up

51 61 up plus half of 15 down 53 43 up plus 27 down 54 40 up minus 58 down 55 Half of 19 down, then subtract 34 down 56 5 down reversed 58 52 across minus 31 down 61 Mean of 4 up and 2 across 62 46 down minus 51 up 63 Mean of 35 across and 47 across 64 Nine times a prime number 65 30 down minus 55 across 66 8 up plus 31 down

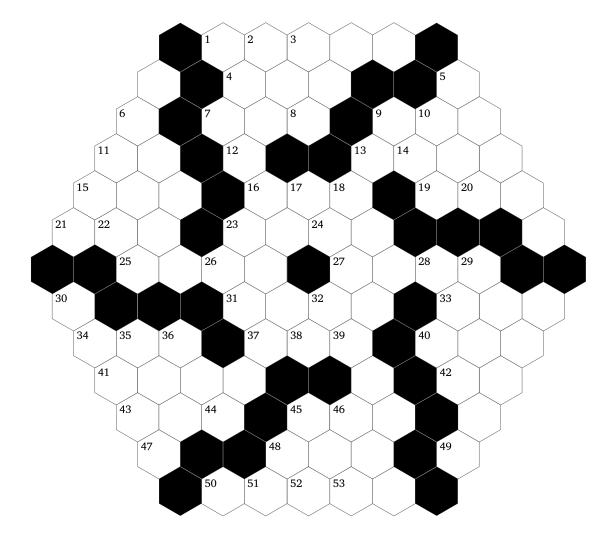
#### Down (continued)

18 Mean of 64 across and 54 up 19 35 across minus 4 up 27 Mean of 11 across and 34 up 29 52 down minus 47 across 30 34 up plus 44 down 31 A square 32 46 down minus 51 up 34 Mean of 3 across and 5 up

36 Mean of 31 across and 10 down 37 Six times a prime number 40 52 across minus 31 across 42 53 up minus 3 across

44 1 down minus 61 down 46 3 across plus 55 up 49 Sum of digits in 37 down 50 Thirteen times a square 52 52 across plus 32 down 53 10 down plus 4 up 58 28 across minus 41 across 61 11 across minus 38 across





# Across

1 Seventy times a prime number 4 Two-thirds of 45 across 78 up plus 25 up 9 Mean of 9 down and 3 down 11 33 across minus 51 up 13 A prime number 15 28 down minus 13 across 16 Mean of 53 up and 43 across 19 48 across minus 8 up 21 Half of 19 across 23 Twenty-four times a prime number 26 40 up minus 42 up

# Up

7 Mean of 51 up and 45 down 8 43 up minus 22 up 12 33 across plus 17 down 14 Same as 15 down 19 Mean of 41 up and 39 up

20 40 across minus 33 across 21 Twice a prime number 22 Mean of 19 up and 25 up 24 A prime number 25 48 down plus 11 across

# Down

1 Mean of 43 across and 46 down

- 215 across minus 20 up
- 3 40 across divided by sixteen
- 5 Mean of 21 up and 21 across
- 6 Twice the result of 41 across minus 37 across
- 7 31 across plus half of 23 across
- 97 across minus 45 across
- 10 26 up minus 25 up
- 11 Twenty times a prime number
- 15 Eighty-five more than 1 down
- 17 One thousand four hundred sixtyseven more than 24 up

25 45 across plus 42 up 27 Last two digits are the same as 20 up 31 Sixteen times 26 down 33 36 down plus 25 up 34 36 down minus 48 down 37 Mean of 41 across and 42 up 40 40 up minus 11 across 41 A prime number 42 Mean of 48 down and 41 up 431 down plus 42 across 45 2 down minus 19 across 48 39 up reversed 50 Three thousand two hundred seven 53 Mean of 20 up and 43 across more than 5 down

# Up (continued)

31 Eighty-two times a square 38 Twelve times a prime number

39 48 across reversed

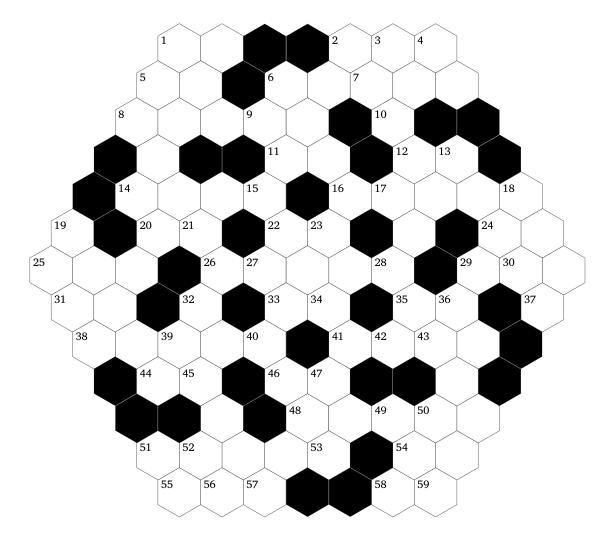
40 Mean of 40 down and 14 up 41 1 down minus 33 across

42 25 across minus 53 up 43 40 down minus 20 up 44 Mean of 37 across and 27 across 47 Mean of 45 down and 4 across 49 Mean of 50 across and 27 across 51 36 down plus 48 down 52 Sixteen times a prime number

# Down (continued)

18 48 across divided by three 23 Thirty-two times a prime number **26** Twice the result of 25 across minus 40 down 28 Nine times a prime number 29 Twice the result of 42 up minus 10 down 30 Mean of 1 across and 1 down 32 Mean of 31 up and 9 down 35 Nine times a prime number **36** Mean of 51 up and 34 across 40 51 up plus 42 across 45 A square 46 Mean of 7 up and 2 down 48 8 up minus 19 across





# Across

- 1 33 across plus 5 down
- 2 Mean of 55 across and 46 across
- 5 Mean of 42 up and 11 across
- 6 Five hundred more than 8 down
- 8 Eight times a prime number
- 11 Mean of 4 down and 58 across

12 Mean of 14 down and 22 across

- 14 Three times a square
- 16 Nine thousand four hundred eighty- 25 58 across minus 42 up seven more than 15 down

# Up

- 7 55 across divided by 54 across
- 8 29 across minus 45 up
- **9** A square
- 10 Rearranged digits of 8 up
- 14 Twelve times a prime number
- 15 Five thousand four hundred fiftyseven more than 38 up
- 17 Mean of 47 down and 58 across

21 23 down divided by five

#### Down

- 1 Mean of 55 up and 59 up
- **2** Seven times a prime number
- 314 down minus 21 up
- 4 Three-fourths of 46 across
- 5 A square
- 6 Three times a prime number
- 8 Half of 57 up, then subtract 17 down
- 9 Mean of 50 down and 9 up
- 13 Five thousand four hundred thirtyfive less than 2 down

20 37 up plus 12 across 22 Mean of 44 across and 52 down

24 9 up minus 27 up 25 30 up times 31 across 26 Mean of 13 down and 58 across 29 Mean of 49 down and 5 across 31 50 down minus 32 down 33 Mean of 37 up and 54 across 35 46 across plus 21 up 38 Twenty-six times a prime number

41 Forty-one times a prime number 44 Mean of 11 across and 56 up 46 Mean of 44 across and 24 across 48 16 across minus 8 across 51 Five thousand three hundred eighty-eight more than 26 across

54 27 up minus 42 up

55 Thirty-two times a prime number

58 Mean of 22 across and 44 across

# Up (continued)

27 14 across divided by 9 up 28 Twenty-two times a prime number

30 52 down divided by three 31 47 down minus 14 down 34 29 across minus 8 up 37 A cube 38 Rearranged digits of 58 up 40 A prime number 42 10 up divided by 27 down 43 Eleven times a prime number

44 Mean of 7 up and 6 across 45 Same as 23 down 53 Same as 47 down 55 A prime number 56 37 up plus 53 up

# Down (continued)

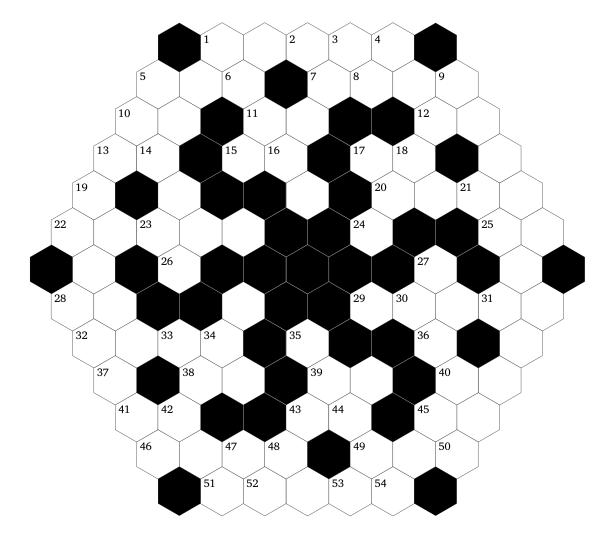
14 32 down minus 54 across 15 Nine thousand eight hundred one more than 48 across 17 18 down minus 25 up 18 35 across plus 11 across 19 Thirty-three times a prime number 23 27 up plus 27 down 25 10 up minus 9 down 27 11 across minus 3 down 28 15 up plus 25 down 32 Twice the result of 25 up minus 7 up **36** 1 across minus half of 35 across 39 38 across minus half of 14 up 40 27 up times 18 down 47 8 up minus 44 across 49 2 across minus 45 up

57 Twenty-eight times a prime number 50 8 up minus 46 across 58 Fourteen thousand eight hundred twenty-nine more than 39 down

- 59 49 down minus 31 across
- 52 53 up plus 54 across

51 Mean of 31 up and 33 across





# Across

- 1 Two thousand two hundred four less than 1 down
- 5 17 down plus 37 up
- 7 22 up divided by 44 up
- 10 Mean of 27 down and 30 up 11 34 down plus 17 across
- **12** 44 up plus 26 up
- 13 5 across minus 53 up
- 15 38 across plus 47 down
- 17 Mean of 53 up and 30 up
- 20 Twenty times a prime number

# Up

6 A square

- 8 17 down reversed
- 14 Twice the result of 16 up minus 25 across
- 15 10 across plus 45 down
- 16 Twenty-nine times 40 across
- 21 31 down plus 34 down
- 227 across times 41 across
- 23 38 across plus 8 up
- 24 Its digits total 31 down
- 25 6 up minus 23 up

# Down

1 Five thousand seven hundred thirtyfive less than 51 across

- 2 42 down minus 48 down
- 3 Mean of 8 up and 38 across
- 4 Seven times 53 up
- 5 A square
- 9 28 down minus 21 down
- 10 20 across plus 52 up
- 17 Mean of 25 up and 2 down
- 18 28 across plus 53 up
- 19 28 up minus half of 34 down

less than 1 down

# Up (continued)

28 5 down plus 32 up

22 One thousand four hundred twelve 26 Mean of 45 across and 45 down

25 Mean of 5 down and 34 down

28 48 down minus 31 down 29 A prime number 32 Twice a prime number

38 42 down minus 32 up 39 33 down minus 41 across 40 45 across plus 17 across 41 28 up minus 37 up 43 Mean of 15 across and 47 down 45 15 across minus 17 down 46 Mean of 20 across and 11 across 4911 across plus 6 up 51 Seven thousand nine hundred

thirty-nine more than 1 across

30 18 down minus 23 down 31 5 across plus 15 across 32 42 down minus 25 up

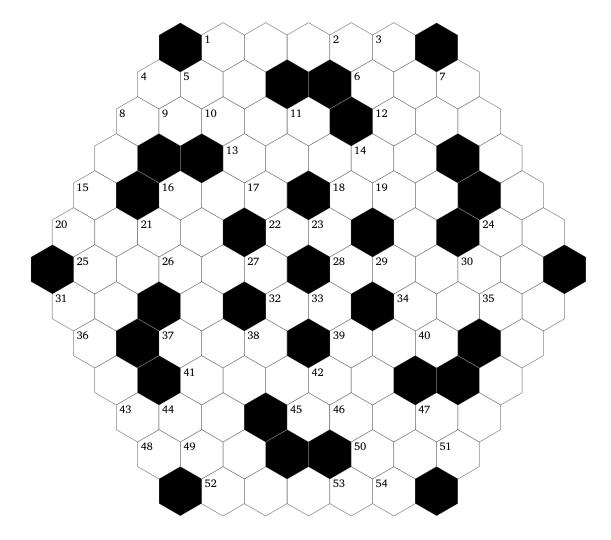
36 40 across minus 44 up 37 2 down plus 25 up 44 Mean of 3 down and 38 across 46 Seven times a prime number 50 Its digits total 28 across 51 38 across plus 36 up 52 Three times a prime number 53 12 across minus 39 across 54 22 across divided by 8 up

# Down (continued)

21 42 down times 27 down

- 22 Three hundred forty less than 32 across
- 23 51 up minus 45 down
- 27 15 across minus 30 up
- 28 Last two digits are the same as 44 up
- **30** Ten times a prime number
- 31 Mean of 25 across and 8 up
- 33 Sum of digits in 1 down
- 34 15 across minus 45 down
- 35 46 up minus half of 12 across
- 42 48 down plus 6 up
- 45 Mean of 8 up and 18 down
- 47 49 across minus 18 down
- 48 Mean of 10 across and 23 up





Across	Up	Down
1 35 up times 29 down	6 32 across minus 52 up	1 Eight times a prime number
412 across minus 52 up	918 across plus 48 across	2 Rearranged digits of 37 down
6 11 down plus 35 up	10 A cube	<b>3</b> 30 down minus 24 across
8 Eight hundred thirty-three less than 31 down	17 Fourteen times 33 up	4 44 down minus 11 down
126 across minus 15 down	19 A prime number	5 Mean of 51 up and 17 up
13 Four thousand forty-eight more than 46 up	20 Six times a prime number	7 Fifty-eight times a prime number
16 16 down minus 32 across	23 Consecutive digits unordered	11 44 down minus 47 down
18 Mean of 6 up and 16 down	26 Twenty-four times a prime number	14 Last two digits are the same as last two digits of 29 down
20 Three times a prime number	27 Mean of 47 down and 22 across	15 16 across minus 37 up

22 45 across divided by 4 across 24 4 down plus 47 down

- **25** Four times a prime number
- 28 Thirty-five times a square
- 31 39 across minus 30 down
- 32 Mean of 27 up and 27 down
- 34 Three hundred seventy-three less than 42 down
- 37 A prime number
- 39 Seven times 24 across

41 A prime number

- 43 50 across minus 31 across
- 45 Sixty-four times a prime number
- 48 Forty-one times 52 up
- 50 38 down minus 45 up
- 52 Five hundred eighty-one more than 54 11 down reversed 14 down

# Up (continued)

291 across divided by 35 up 31 Twice the result of 43 across minus 20 A prime number 54 up 33 52 across divided by 44 down 35 Mean of 44 down and 31 across 36 6 across times 3 down 37 Thirty-four times 52 up 40 Sixty-nine times a square 45 10 up minus 33 up 46 Twice a prime number

48 Seventy-six more than 1 down

49 Mean of 25 across and 26 up 51 Ten times a prime number 52 10 up minus 11 down 53 14 down minus half of 40 up

# Down (continued)

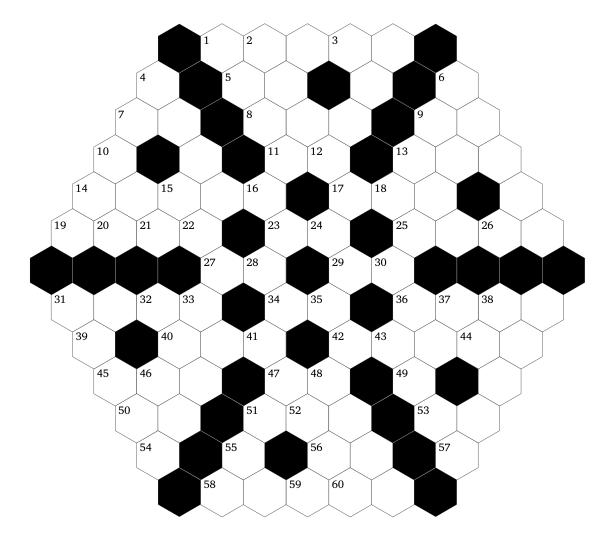
16 50 across minus 10 up

21 45 up times 12 across 23 24 across minus 52 up 24 Mean of 3 down and 9 up 27 Mean of 24 across and 6 up **29** Same as 29 up

30 A prime number

- 31 Five thousand two hundred ninetyone less than 7 down
- 33 Six thousand twenty-six less than 46 up
- 37 13 across minus 20 up
- 38 A prime number
- 42 Twenty-nine times a prime number
- 44 48 across minus 54 up
- 47 Mean of 23 down and 52 up





# Across

1 Mean of 30 up and 57 up 5 13 across minus 59 up

7 50 across minus 24 up8 41 down divided by 16 up9 19 up minus 42 across

11 Three-fifths of 56 across
13 13 down plus 9 down
14 Three times a prime number
17 Mean of 49 up and 3 down
19 35 up times 41 up

# Up

5 Mean of 56 across and 3 down 8 Six times a prime number

- 12 Twenty-six times a prime number
- 16 23 across plus 33 down
- 18 First two digits are the same as 18 down
- 199 down plus 42 across
- 20 Mean of 29 across and 33 down
- 21 27 across plus 59 up
- 22 54 up minus half of 48 down
- 24 Mean of 20 up and 38 down

#### Down

- 1 A prime number
- 2 First two digits are the same as 14 down
- 3 19 across divided by 35 up
- 45 up plus 58 up
- 6 40 across times 28 up
- 9 29 across minus 38 down
- 10 51 across plus 27 across
- 13 Thirteen times 46 down
- 14 A square
- 15 Twice the result of 45 across plus 5 across

- 23 Mean of 3 down and 39 up
  25 Mean of 26 up and 54 up
  27 11 across plus 53 across
  29 54 up divided by 47 across
  31 Twice the result of 36 across plus 20 up
  34 39 up minus 22 up
  36 22 up plus 54 up
  40 6 down divided by 50 across
  42 Consecutive digits unordered
  45 Mean of 59 up and 8 across
  47 18 down plus 28 down
  50 21 up minus 13 down
  51 A prime number
- **53** Half of 8 up, then subtract 13 across
- 56 28 down minus half of 14 down
- **58** First three digits are the same as first three digits of 4 down

# Up (continued)

26 11 across plus 23 across
28 Same as 50 across
30 Three times a prime number
35 58 up minus half of 19 across
39 34 across plus 7 across

41 44 up minus 11 across
43 A square
44 24 down plus 5 up
49 Eleven times a prime number
50 Fourteen times a prime number
52 Two-fifths of 18 up
54 36 across minus 7 across

57 First two digits are the same as 53 across58 55 down times 39 up

- 59 A prime number
- 60 44 up minus 41 up

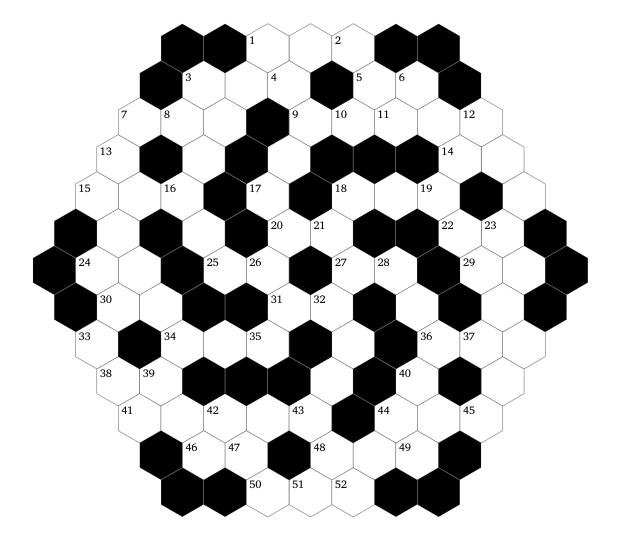
# Down (continued)

16 23 across minus 27 across
18 28 up minus 24 down
24 A square
28 Mean of 39 up and 60 up
30 21 up minus 20 up

31 Twice a prime number
32 Seven times 28 down
33 5 up minus 16 down
35 A square
37 Nine times a prime number
38 A square
41 First two digits are the same as 41 up
43 Sixty-five times a prime number

- 46 Half of 44 up, then subtract 55 down
- **48** First two digits are the same as first two digits of 49 up
- 55 39 up minus 34 across





#### Across

- 1 46 up plus 1 down 3 39 down minus 5 across 5 30 across minus 40 down
- **7** Mean of 29 up and 50 across
- 9 Twelve times a prime number
- 14 49 up minus 44 down
- 15 31 across plus 48 across
  18 15 across plus half of 3 down
  20 Mean of 37 down and 24 across
  22 15 up divided by six
- 24 30 across minus 44 down

# Up

- 4 46 across minus 40 down
- 8 Mean of 25 across and 11 up
- 10 Sum of digits in 3 across
- 11 5 across minus 24 across
- 15 Mean of 50 across and 43 down
- 16 Last two digits are the same as last 12 17 up plus 36 across two digits of 15 up
- 17 Mean of 2 down and 12 down
- 19 42 down minus 30 across
- 21 Same as 25 across
- 21 Same as 25 across
- 24 3 across minus 22 across
- 26 5 across plus 24 down

#### Down

- 1 5 across plus 16 down
   2 1 across minus 6 down
   3 A square
   6 11 up plus 23 down
   8 13 down minus 47 up
   12 17 up plus 36 across
- 1319 up minus 3 down
- 15 A prime number
- 16 33 down minus 11 up
- 17 24 across plus 30 across
- 1916 down times 20 across

25 48 across divided by 14 across
27 Mean of 13 down and 49 up
29 43 up divided by 24 across
30 Mean of 44 down and 17 down
31 6 down minus 40 down
34 Mean of 36 across and 46 up
36 44 across plus 51 up
38 17 down plus 14 across
41 Three times a square
44 24 up minus 30 across
46 A cube
48 14 across times 21 up
50 26 down plus 36 across

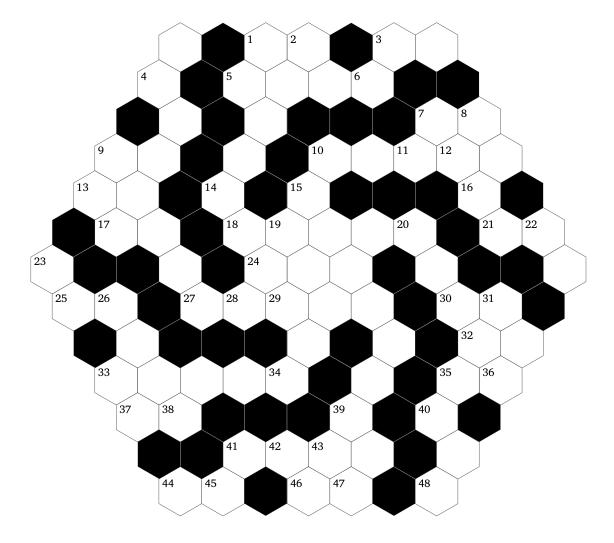
# Up (continued)

29 Mean of 15 up and 33 down21 17 up div32 Mean of 37 down and 13 down23 28 down33 Mean of 1 across and 44 across24 Mean of35 17 up divided by 51 up26 Mean of37 11 up plus 43 up28 20 across41 Mean of 23 down and 3 across32 Mean of43 22 across plus 45 up33 1 across and45 16 down plus 33 up37 Mean of46 Mean of 21 down and 44 down39 Mean of47 24 across plus 26 down40 46 across49 15 up divided by 11 up42 Mean of51 Mean of 8 down and 49 up43 45 up plu52 Twenty-eight times a prime number44 A square

# Down (continued)

21 17 up divided by 3 down
23 28 down minus 41 up
24 Mean of 46 across and 46 up
26 Mean of 21 down and 22 across
28 20 across plus 36 across
32 Mean of 47 up and 37 down
33 1 across minus 29 across
37 Mean of 27 across and 23 down
39 Mean of 37 up and 4 up
40 46 across minus 10 up
42 Mean of 28 down and 8 down
43 45 up plus 19 up
44 A square





# Across

1 23 down plus 42 down
3 Mean of 40 down and 36 up
5 Three times a prime number
7 1 down plus 25 across
9 Mean of 4 down and 8 down
10 45 up times 29 up
13 2 down minus 1 across
17 23 down plus 37 across
18 A prime number
21 13 down minus 33 up
24 10 across divided by 45 up

# Up

4 Mean of 23 down and 5 down 5 40 down plus 38 up 6 1 down minus 4 up 11 13 up plus 47 up 12 Mean of 30 across and 39 down 13 Mean of 33 up and 45 up 14 Thirteen times a prime number 16 4 down plus 30 across 17 Four times a prime number 28 A palindrome 29 Mean of 19 down and 3 across

# Down

1 Mean of 11 up and 38 up
2 A prime number
4 21 across plus 35 across
5 16 up plus 22 down
7 20 down divided by 21 across
8 13 across plus 12 up
9 46 up reversed
13 A cube
14 Eighty-five times a prime number
15 Mean of 34 up and 14 up
19 Seven times a prime number

25 31 down minus 13 down

27 A prime number

- 30 Mean of 13 across and 40 down
- 32 25 across plus 1 down
- 33 A prime number
- 35 Mean of 9 across and 44 across
- 37 Mean of 39 down and 23 down
- 41 1 down times 5 up

449 across minus 4 up 46 Mean of 5 up and 48 up

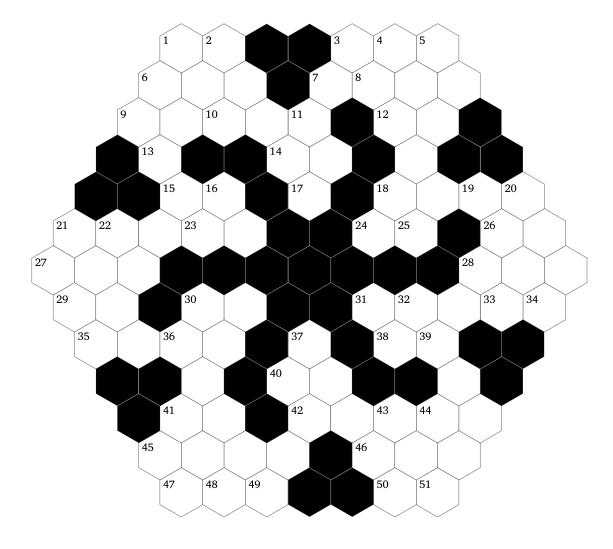
# Up (continued)

- **33** Twice the result of 23 down minus **20**7 down times 6 up 22 down
- 34 Last two digits are the same as 44 across
- 36 2 down minus 17 across
- 377 across minus half of 11 up
- 38 Mean of 46 across and 17 across
- 40 1 across times 45 up
- 45 A square
- 46 Last two digits are the same as 8 down
- 47 6 up plus 25 across
- 48 Mean of 4 down and 31 down

Down (continued)

- 22 4 up divided by four
- 23 35 across minus 3 across
- 26 A prime number
- 31 1 down minus 3 across
- 33 13 across minus half of 13 up
- 39 40 up divided by 13 down
- 40 Twice the result of 25 across minus 21 across
- 429 across minus 23 down
- 43 Mean of 4 down and 22 down





# Across

- 18 up minus 5 down 3 27 down minus 46 across 6 Twenty-eight times a prime number 10 15 across minus 22 down 7 Four times a prime number **9** Fifty-four times a prime number 12 Mean of 22 down and 28 down 14 50 across plus 29 across
- 15 21 down divided by 5 down
- 18 Thirteen times a square
- 21 Last two digits are the same as 25 up

# Up

8 40 down reversed 9 25 up plus 24 across 12 4 down minus 44 down 139 down minus 31 down 14 Twice the result of 35 across minus 14 across 17 23 up minus 46 up 23 29 across plus 18 down

- 24 15 across times 27 across
- 25 Mean of 17 up and 15 across

#### Down

1 Mean of 30 across and 47 across 2 Eighty-five times a square 3 Three times a prime number 49 across divided by 46 up 5 10 up plus 46 up 6 Mean of 40 up and 12 across

913 up plus 12 across 11 Mean of 26 across and 10 up 16 15 across minus half of 17 up

18 Mean of 22 down and 5 down

24 38 up plus 50 across
26 46 up plus 28 down
27 24 up divided by 8 up
28 12 up minus 23 up
29 3 across divided by 38 across
30 23 up minus 10 up
31 47 up times 40 up
35 49 up minus 27 down

38 27 up minus 48 up

40 A square

41 Mean of 15 across and 17 up

- 42 Twelve times a prime number47 Eleven times45 Twice the result of 49 up minus 43<br/>down48 A square
- **46** 40 across plus 36 up
- 47 27 across minus 11 down
- 50 A square

# Up (continued)

27 11 down reversed 29 A square 33 Mean of 47 up and 18 down 348 up minus 18 down 35 18 across plus half of 45 up 36 50 across plus 38 across 38 24 across minus 48 up 39 Eight thousand eighty-six more than 21 across 40 Half of 42 across, then subtract 21 across **45** Forty-four times a prime number 46 24 across minus 40 up 47 Eleven times 41 across 49 Forty-six times a prime number 50 19 down plus 47 across

51 Rearranged digits of 27 across

# Down (continued)

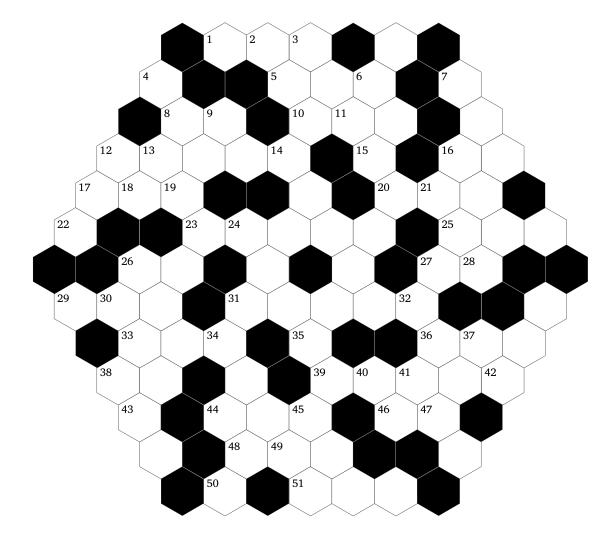
- 19 Thirteen times a prime number
  20 Seven times a prime number
  21 8 up times 5 down
  22 41 down divided by twelve
  27 47 up minus 10 up
  28 Mean of 34 up and 48 up
  30 Mean of 28 down and 38 up
  31 Mean of 45 down and 38 up
  32 Four times a prime number
- **36** Thirteen thousand seven hundred eighty-two more than 45 up
- **37** Thirteen thousand four hundred twenty more than 36 down

40 31 across divided by 47 up

**41** 27 down minus 40 up

43 Three times a prime number 44 50 across plus 48 up 45 Same as 14 across





#### Across

1 Mean of 50 up and 5 up 5 Mean of 6 down and 13 down 85 across divided by 38 across 1014 down minus 3 down

12 Seventy-one times a prime number 18 51 up plus 5 across 16 28 up minus 46 across 17 37 down times 5 up 20 Mean of 4 down and 46 up 23 A prime number

25 51 across plus 1 across

# Up

5 Mean of 15 up and 40 down 11 47 up plus 38 across 14 Mean of 15 up and 48 across 15 26 down minus 33 across

**19** 47 up minus 45 down 21 21 down minus 46 across 22 17 across minus half of 11 up 28 27 across plus 5 up

30 51 across minus 2 down

# Down

2 Mean of 47 up and 1 across

- 314 down minus 25 across
- 4 10 across minus 51 up
- 6 Half of 21 down, then subtract 33 across
- 7 48 across minus 42 up
- **9**21 up minus 19 up
- 12 22 up minus 30 up
- 13 33 across plus 18 up
- 14 Seven thousand one hundred less than 24 down
- 16 26 down minus 46 across

26 25 across minus 13 down

- 27 Sum of digits in 23 across
- 29 2 down minus 1 across
- 31 A prime number
- 33 Mean of 40 down and 2 down
- 36 Mean of 10 across and 8 across
- 38 Same as 37 down
- 39 Fifteen thousand nine hundred forty-two less than 31 across
- 44 Seventeen times a square
- 46 30 up reversed
- 48 13 down minus 44 up
- 51 Twice the result of 29 across minus 51 1 across minus 44 down 12 down

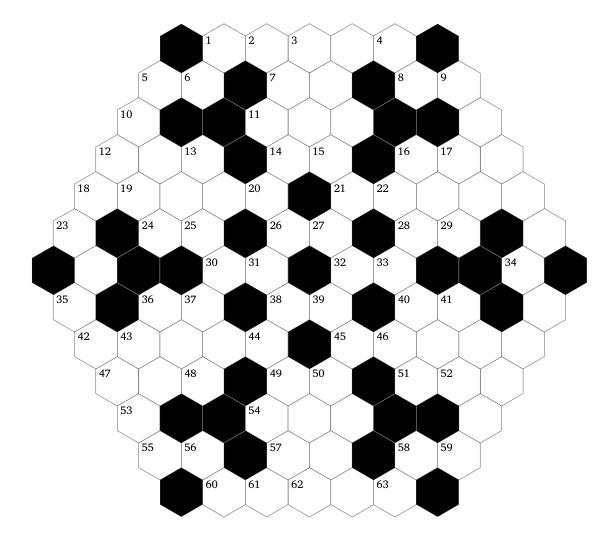
# Up (continued)

- 32 Three hundred seventy-nine less than 23 across 34 Seven times a prime number
- 35 Five times a prime number
- 38 Ninety-one times a prime number
- 42 Mean of 41 down and 40 down 43 Mean of 6 down and 50 up
- 44 Twice the result of 48 across minus 37 5 across divided by 8 across 21 up
- 46 47 up minus 2 down
- 47 11 up minus 37 down
- 49 30 up plus 17 across
- 50 21 up minus 45 down

# Down (continued)

- 21 A square
- 24 Mean of 12 across and 38 down
- 26 50 up plus half of 7 down
- 30 51 across plus 33 across
- 32 48 across plus 51 up
- 34 Nine thousand four hundred twenty-five less than 34 up
- - 38 42 up minus 46 up
  - 40 44 down minus 15 up
  - 41 44 across plus 43 up
  - 44 4 down minus 51 across
  - 45 32 down minus 14 up





# Across

- 1 Five times a prime number
- 5 Half of 25 up, then subtract 24 across
- 7 22 down plus 34 up
- 8 Mean of 32 across and 28 across
- 11 A square
- 12 Mean of 54 across and 6 up
- 14 20 down minus 22 down
- 16 Mean of 36 down and 20 down
- $18\,\mathrm{Twenty}\xspace$  four times a prime number  $\ 25\,27\,\,\mathrm{down}$  plus 39 down
- **21** 62 up times 20 down
- 24 36 across minus 14 across

# Up

6 31 up plus 39 down

11 13 down plus 40 across

- 15 Mean of 40 across and 57 across
  19 37 down minus 39 up
  20 A palindrome
  22 6 up divided by four
  23 42 across plus 34 up
  24 8 across plus 51 up
  25 27 down plus 39 down
- 27 A square
- 29 38 across plus 50 down

# Down

2 Mean of 53 up and 63 up 3 61 up divided by 43 down

4 Mean of 58 across and 11 down 9 Mean of 33 up and 41 down 10 A prime number

- 11 A square
- 12 24 up plus 34 up
- 13 34 down plus 55 across
- 16 16 across plus 34 up
- 17 Mean of 31 down and 15 up
- 20 Mean of 39 up and 11 up

26 Mean of 63 up and 54 up
28 31 up plus 6 up
30 11 up minus 38 across
32 Mean of 30 across and 39 up
36 Mean of 34 down and 11 up
38 39 up reversed
40 54 up plus 14 across
42 Fifty-five times a prime number
45 Twelve times a prime number
47 31 up plus 47 up
49 Mean of 48 up and 46 up
51 12 down minus 34 up
54 Twenty-two times 11 down

55 51 up minus 52 up
57 Mean of 35 up and 55 across
58 46 up plus 43 down
60 44 up plus 35 down

# Up (continued)

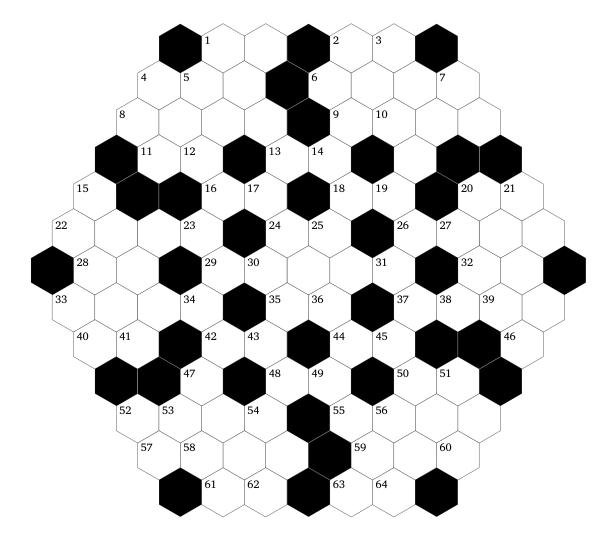
31 40 across minus 27 up22 17 down minus 533 Fifty times a prime number23 22 down plus 1134 A cube27 29 up minus 32 a35 Mean of 22 up and 52 up31 Mean of 23 down39 29 up minus 40 across33 A prime number44 Mean of 31 up and 8 across34 15 up minus 13 a46 Mean of 55 across and 44 up35 60 across minus47 Twice the result of 24 up plus 48 up36 A prime number48 Mean of 38 across and 24 across37 27 up minus 22 a51 23 down plus 36 across39 31 up minus 22 a52 46 up plus 4 down41 Four times a prime53 Seventeen times a prime number43 Mean of 63 up and54 Mean of 19 up and 7 across44 Last two digits and

59 10 down plus 16 across
61 32 across times 3 down
62 Mean of 19 up and 41 down
63 30 across minus 22 up

# Down (continued)

22 17 down minus 54 up 23 22 down plus 11 down 27 29 up minus 32 across 31 Mean of 23 down and 56 down 33 A prime number 34 15 up minus 13 down 35 60 across minus 35 up 37 27 up minus 22 down 39 31 up minus 22 up 41 Four times a prime number 43 Mean of 63 up and 57 across 44 Last two digits are the same as 40 across 46 32 across minus half of 26 across 50 34 up reversed 54 54 across minus 24 across 56 50 down minus 49 across





# Across

1 Half of 41 up, then subtract 46 up 2 58 up minus 25 down 4 58 up times 1 across

6 33 across minus 22 up
8 26 across minus 31 down
9 Seventy-seven times 41 up
11 Mean of 25 down and 23 down
13 Mean of 2 across and 34 up
16 8 down plus 24 across
18 Two-thirds of 25 down
20 18 across plus 21 down

# Up

6 25 down plus 28 across8 Mean of 42 across and 31 up10 14 down plus 18 across

11 Mean of 27 down and 5 down
12 47 down plus 17 up
14 Seven times a prime number
17 34 up plus 51 down
19 Twenty-one times a prime number
22 8 down plus 24 across
23 62 up minus 20 across
27 36 up plus 25 down

# Down

42 across times 11 across
 2 Fifty-two times 42 across
 3 First two digits are the same as 24 across
 4 57 up minus 6 down
 5 7 down minus 46 up
 6 36 up plus 58 up
 7 Mean of 41 up and 30 down

- 8 34 up minus 18 across
- 14 43 up divided by 63 up
- 15 55 across minus 25 down
- 17 First two digits are the same as 30 up

22 A prime number 24 19 up minus half of 64 up 26 8 across plus 11 across 28 Sum of digits in 17 down 29 A prime number 32 Mean of 52 down and 13 across 336 across plus 16 across 35 A square 37 Seven times a prime number 40 58 up minus 41 up 421 down divided by 52 down

44 60 up plus 32 across 48 A square 50 6 up minus 8 up 52 63 across plus 11 up 55 15 down plus 43 down 57 16 across times 44 across **59** 33 up minus 6 up 61 Mean of 8 down and 36 up 63 Mean of 27 up and 1 across

# Up (continued)

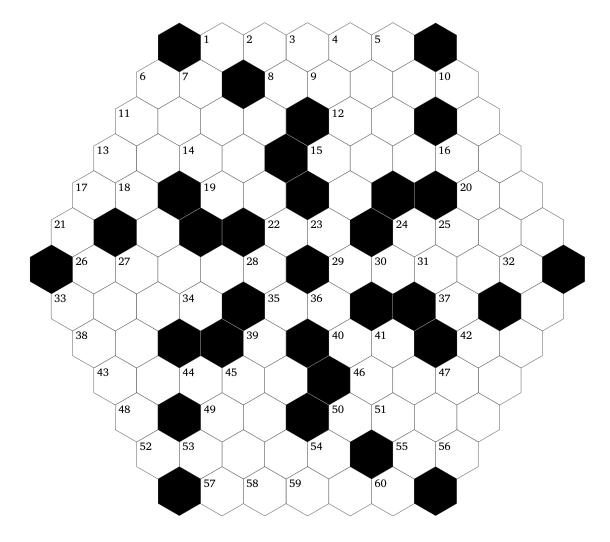
30 49 down divided by 7 down 31 5 down minus 51 down **33** 4 across minus 40 across 34 23 up plus 41 up 36 18 across minus 8 up 38 33 across minus 14 down 39 32 across times 23 down 40 9 across minus 10 up 41 8 up plus 2 across 43 Nine thousand thirty-one more than 33 5 down plus 31 up 29 across 45 58 up plus 23 up 46 54 down minus 32 across 49 37 across minus 57 up 57 4 down plus 33 down 58 30 up minus 2 across 60 27 up minus 2 across 61 4 across plus 33 down 62 A square 63 Mean of 22 across and 6 up 64 Twenty-six times a prime number

#### Down (continued)

195 down minus 31 down 20 27 down minus 4 across 21 Mean of 1 across and 28 across 22 Four times a prime number 23 2 down minus 14 up 25 Mean of 31 up and 17 up **27** Nine times a prime number 30 51 down plus 49 up 31 21 down plus 23 up

34 Same as 50 across 43 19 down plus 13 across 45 22 across minus half of 31 up 47 Sixteen times a prime number **49** Seventy-two times a prime number 51 Mean of 61 across and 32 across 52 Mean of 23 up and 60 up 53 41 up plus 59 across 541 across plus 31 down 56 Mean of 35 across and 34 up





#### Across

1 Four times a prime number 6 55 across minus 17 across

- 84 down times 42 across
- 11 Half of 15 up, then subtract 44 down
- 12 Mean of 39 down and 28 down
- 13 21 up divided by 23 down
- 15 Nine thousand eight hundred twenty-one more than 56 up
- 17 Half of 6 across, then subtract 34 up

# Up

9 48 up plus 19 across

1415 down minus 36 up

15 First three digits are the same as first three digits of 21 down

16 A square

18 Its digits total 2 down19 Sixty-four times a prime number

21 13 across times 51 up

23 33 down minus 46 across

#### Down

- 2 35 across minus 16 up
- <sup>3</sup> One thousand six hundred sixtyseven less than 15 up
- 4 43 up minus 49 across
- 5 A cube

6 Rearranged digits of 38 up

- 7 Two thousand one hundred fifty less than 59 up
- 10 24 down minus 36 up

11 50 across minus 24 across

19 A square 20 Mean of 19 across and 12 across 22 Mean of 48 up and 51 up

24 A prime number

26 19 up minus 55 across 29 A prime number

33 Sixty-three times a prime number 35 28 down minus half of 33 up 38 Four times 2 down

40 53 down reversed 42 39 down minus 11 down 43 Fifty-four times a prime number 46 One thousand one hundred eighty more than 38 up 49 35 across minus 39 down 50 Five times a prime number 52 Five times a prime number 55 40 across plus 51 up

57 A prime number

Up (continued)

286 across plus 39 down 30 54 down plus half of 19 across 32 38 across minus 17 across 33 Mean of 5 down and 53 down 34 55 across minus 27 down 36 Mean of 30 up and 11 down 37 Twice a prime number 38 Twice the result of 37 up plus 40 across 43 27 down times 5 down 48 43 up divided by 27 down 51 33 up minus 25 down 53 One thousand five hundred twenty- 41 Nine times a prime number six more than 1 across 56 Forty-two times a prime number 57 Twice a prime number 58 Mean of 14 up and 36 up 59 Four times a prime number

60 A prime number

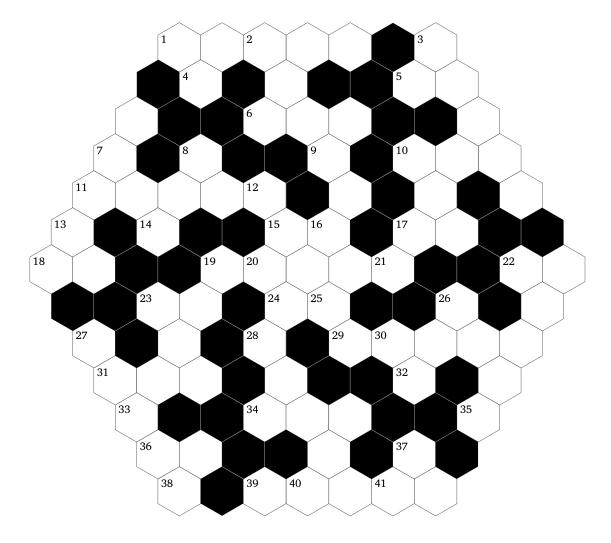
Down (continued)

13 A prime number 15 55 across plus 2 down 31 Twenty-three times a prime number 16 Twelve thousand six hundred sixtyone more than 13 down 21 Last two digits are the same as 49 across 23 30 up minus 32 up 24 Seventeen thousand one hundred nine less than 21 up 25 58 up minus 14 up 27 5 down plus 33 up 286 across plus 58 up 33 A prime number 36 Twenty-eight times a prime number **39** 32 up minus 14 up

44 27 down plus 43 up 45 16 down divided by 39 down 47 Mean of 33 up and 58 up 53 Half of 28 up, then subtract 22 across

54 28 up minus 39 down





#### Across

- Four thousand two hundred sixteen less than 12 down
   Mean of 8 down and 20 up
   Mean of 10 across and 10 down
- 101 down plus 22 down
- 11 Twelve times a prime number
- 15 A square
- 17 Mean of 30 down and 18 across
- 18 Mean of 8 down and 30 down
- **19** One thousand five hundred twenty- **25** 16 down divided by three three more than 39 across

# Up

- 4 Half of 1 across, then subtract 11 across
- 5 Mean of 34 up and 10 across
- 6 37 down plus 10 across
- 9 Mean of 37 down and 25 up
- 14 A prime number
- 18 2 down plus 33 up

20 Mean of 23 across and 20 down

**21** Mean of 3 down and 10 across **25** 16 down divided by three

# Down

1 17 across minus 24 across

2 Seventy-six times 14 up

- **3** Fifteen times a prime number
- 7 23 down minus 18 across
- 8 Mean of 10 across and 34 up
- 10 18 across plus 23 across
- 12 Eleven thousand five hundred eighty-nine less than 3 down
- 13 22 across reversed
- 16 6 across minus 18 across

# Across (continued) 22 17 across minus 25 up

24 38 up minus 30 down

**23**6 up minus 41 up

Up (continued)

28 Mean of 27 down and 10 down
32 Half of 40 up, then subtract 22 down
33 A prime number

40 Four times a prime number

41 10 down minus 20 down

29 Twice the result of 28 down plus 30 34 Mean of 20 up and 30 down down

31 Mean of 23 down and 24 across 35 A prime number

34 Thirty-eight times a prime number 38 Mean of 10 across and 4 up

36 34 across minus 26 down

**39** First three digits are the same as 6 up

down20 Mean of 41 up and 5 upct 2222 36 across reversed

23 Rearranged digits of 26 down26 34 across minus 9 up

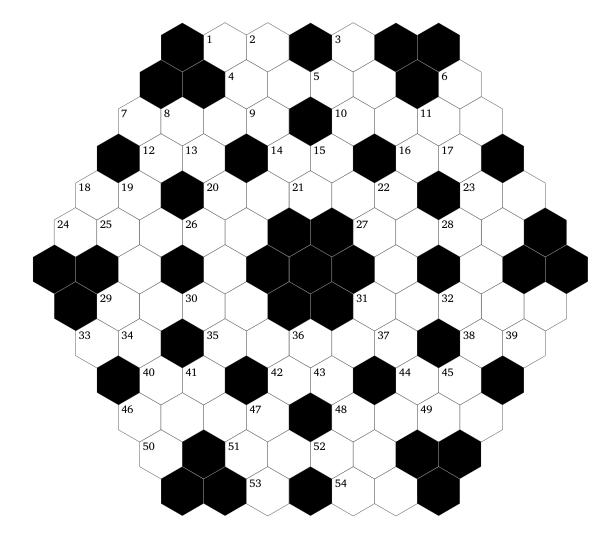
27 One thousand six hundred twentythree more than 12 down

- **28** Two thousand nine hundred more than 33 up
- 30 20 up minus 25 up

Down (continued)

37 Mean of 36 across and 5 across





#### Across

1 A square

4 Eight times a prime number

more than 49 up

10 Seventeen times a prime number 12 Mean of 5 down and 2 down

- 1412 across minus 42 across
- 16 22 down plus 30 down
- 18 24 up reversed

20 Twice a prime number

Up 5 Mean of 54 across and 5 down

9 Mean of 53 up and 7 down 7 One thousand nine hundred eleven 13 26 down minus 38 across

> 17 Mean of 14 across and 19 down 21 Four times a prime number

24 32 down plus 40 across 25 A prime number 26 19 down minus 17 up 27 15 down plus 7 across

#### Down

1 One thousand five hundred thirtyone more than 30 up

- **2**6 down plus 14 across
- 3 A prime number

5 46 up plus 52 down 6 Half of 23 across, then subtract 28 up

- 7 46 up plus 45 down
- 8 Ten times a prime number
- 11 25 up minus 38 across
- 15 Fourteen times a prime number

23 Mean of 16 across and 9 up
24 Twice the result of 43 up minus 54 up
27 Eighty-four times a prime number
29 Seventy-four times 46 up
31 A prime number
33 39 up minus half of 1 across

35 3 down plus half of 21 up
38 40 across plus 47 down
40 Mean of 17 up and 30 down
42 52 up minus 44 across

44 46 up minus 30 down

46 Seven times a prime number48 18 down minus half of 46 down51 46 down times 9 up54 A square

#### Up (continued)

down

28 A cube30 Twenty-five times a prime number

32 Mean of 5 down and 3 down
33 Four times a prime number
34 14 across minus 33 across
37 Mean of 22 down and 7 down

39 Mean of 24 up and 52 up
43 Twice a prime number
46 Mean of 37 up and 44 across
49 Twice the result of 29 down plus 7

50 First three digits are the same as first three digits of 46 across
51 Three times a prime number
52 Sum of digits in 20 across
53 12 across minus 46 up
54 Three times a prime number

#### Down (continued)

18 Twenty-three times a prime number196 down plus 5 up

22 Mean of 47 down and 18 across26 A palindrome28 30 down plus half of 27 across

29 Seven hundred thirty less than 32 up

30 39 up minus 52 down

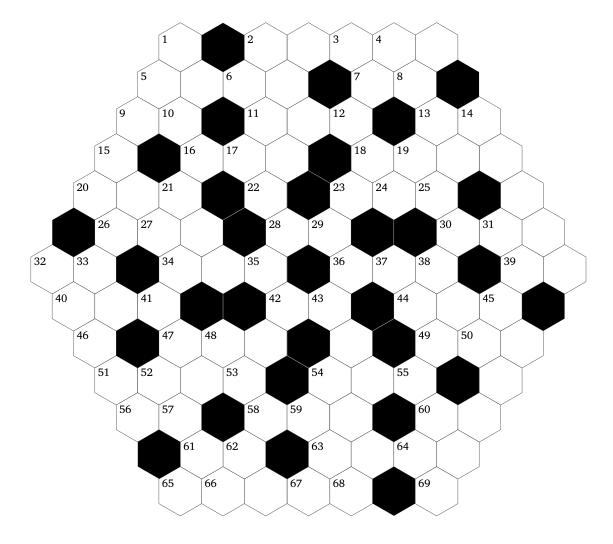
31 Thirty-six times a prime number

32 Half of 23 across

**36** Twenty-three thousand two hundred fifteen more than 20 across

- 41 26 up times 22 down
- **45** 5 up minus 1 across
- 46 30 down plus 34 up
- **47** 24 up minus 9 up
- 52 Mean of 33 across and 42 across





#### Across

2 20 across times 32 across
5 Eleven times a prime number
7 55 down minus 23 across
9 16 across minus 7 across
11 Mean of 33 down and 19 down
13 41 up minus 22 up

16 19 down minus 43 down
18 Mean of 16 across and 63 across
20 54 across plus 56 across
23 Mean of 58 across and 28 across
26 8 up plus 55 up

## Up

6 Sum of digits in 32 down
8 65 up minus 35 up
10 9 across minus 45 down
12 13 across plus 36 across
17 67 up minus 42 across
20 First two digits are the same as 31 down
22 41 up minus 35 down
24 26 across plus 47 across
25 57 up minus 20 down
27 Mean of 55 up and 12 down
29 Mean of 24 up and 56 up

#### Down

1 16 across minus 21 down

- 2 A prime number
- 3 Mean of 31 down and 29 down
- 4 40 up plus 36 across
- 5 33 down plus 65 up
- 6 Mean of 62 down and 54 down
- 12 20 across minus 59 down
- 14 A prime number
- 15 49 across plus 22 up
- 17 Seventy-one times 35 up
- 19 27 up plus 36 across

28 12 up minus 53 up 30 41 down plus half of 31 up 32 Mean of 39 across and 56 across 34 43 down plus 61 across 36 A prime number 39 Half of 26 across, then subtract 59 down 40 22 up minus 59 down 42 55 down divided by fourteen 44 55 down plus 29 up 476 down minus 35 down 49 Six times 59 up 51 Five times a prime number 54 Mean of 2 down and 41 down 56 13 across plus 3 down 58 Mean of 31 down and 36 across 60 Mean of 68 up and 65 up 61 65 up plus 64 down 63 Four times a prime number 65 Seventy-five times a prime number 69 54 across times 1 down

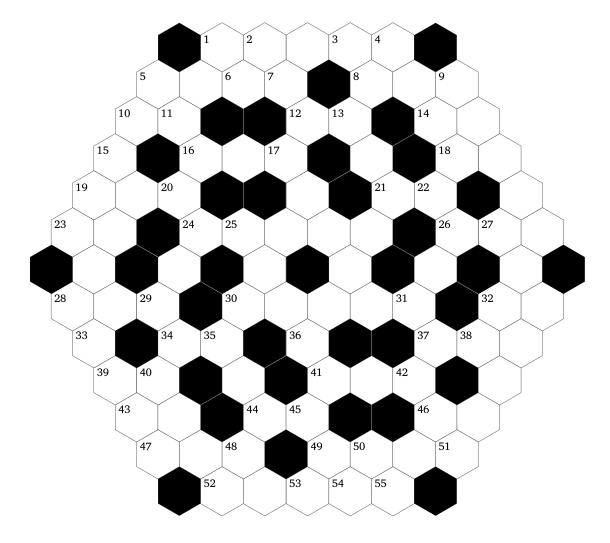
#### Up (continued)

31 Two-fifths of 59 down 35 41 up minus 22 up 40 Twice the result of 18 across plus 44 across 41 Twice the result of 12 up minus 5 down 43 4 down divided by ninety-nine 44 41 up plus 7 across 46 Mean of 65 up and 43 up 50 Twenty-eight times a prime number 37 43 down minus 13 across 53 11 across plus half of 46 up 55 41 down minus 11 across 56 34 across minus 23 across 57 Twice the result of 27 up plus 45 down 59 66 up minus 55 down 64 62 down plus half of 64 down 65 32 across plus 13 across 66 9 across plus 58 across 67 Seventy-seven less than 38 down 681 down plus 62 down

#### Down (continued)

20 41 up minus 41 down 21 31 down plus 56 across 29 65 across divided by 56 up 31 46 up minus 35 down 32 Fifty-one times a prime number 33 43 down minus 40 across 35 56 across minus 3 down **38** 54 down times 13 across 41 37 down plus 64 down 43 44 up minus 23 across 45 21 down minus 9 across 48 Mean of 29 down and 41 down 52 Twice a prime number 54 17 down minus 7 across 55 59 up plus 61 across 59 55 up minus 5 down 62 33 down minus 20 down 64 22 up minus 25 up





#### Across

- Fourteen times a prime number
   Seventy-two times 42 up
   19 down plus 37 across
   32 across plus 12 across
- 12 41 across divided by eighteen14 48 down plus 23 across
- 16 35 up divided by 17 up18 19 down minus 47 up19 42 down minus 17 up

#### Up

6 Mean of 7 up and 42 up
7 17 up minus 32 down
11 26 across minus 46 across
13 35 down plus 21 across

14 Mean of 42 up and 34 across17 Mean of 20 up and 19 down

**20** 39 across minus 23 across **22** 42 up plus 38 down

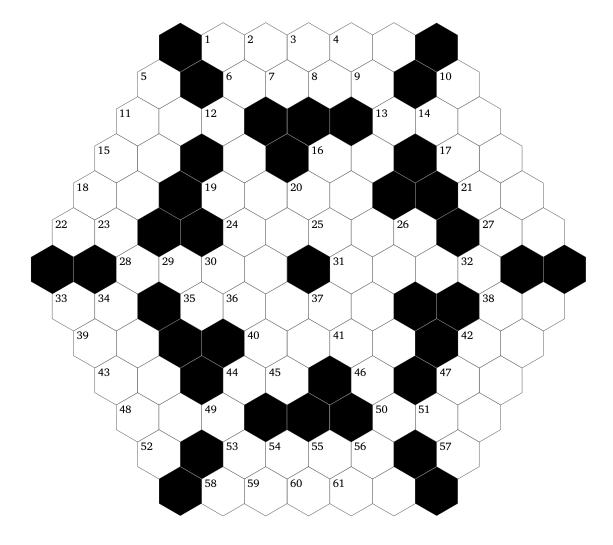
23 First two digits are the same as 3 down

#### Down

- 1 A square
- **2** 24 across divided by 44 across
- 3 49 across divided by 33 up
- 4 Seventy-seven times a prime number
- 5 26 across plus 20 down
- **9** First three digits are the same as 43 up
- 13 39 across plus 42 up
- 15 Square root of 27 down
- 17 52 across minus 36 up

Across (continued)	Up (continued)	Down (continued)
21 38 down minus 1 down	<b>27</b> 13 down minus 55 up	19 22 up minus 23 across
23 50 down minus 18 across	<b>28</b> 43 up plus 45 up	20 Mean of 32 down and 33 up
<b>24</b> 29 up times 44 across	29 23 across plus 26 across	22 A square
26 47 across minus 7 up	<b>31</b> 5 down minus 6 up	23 16 across plus 50 down
28 Mean of 23 down and 7 up	33 Mean of 46 across and 7 up	25 First two digits are the same as 3 down
30 Fifteen times a prime number	35 Sixty-two times a square	27 A square
32 Mean of 22 down and 15 down	<b>36</b> A prime number	28 First two digits are the same as 22 down
<b>34</b> 55 up minus 31 down	38 Twenty times a prime number	29 47 across minus 31 up
<b>37</b> 29 up plus 54 up	<b>42</b> 25 down minus 23 up	<b>31</b> 45 up minus 1 down
39 20 down plus 23 across	43 4 down minus half of 5 across	32 21 across plus half of 15 down
41 Twice the result of 35 down plus 22 down	2 45 Mean of 14 up and 31 down	35 46 across plus 14 across
43 22 up minus 12 across	47 Mean of 31 down and 29 down	<b>38</b> Half of 53 up, then subtract 18 across
44 14 up minus 48 down	51 Thirteen thousand two hundred seven less than 52 across	40 Twice a prime number
46 Mean of 43 across and 54 up	52 A prime number	<b>42</b> 43 up minus 47 up
<b>47</b> 29 up plus 27 up	53 28 across minus 14 across	45 45 up plus 47 across
49 Thirty-eight times a prime number	54 37 across minus 2 down	48 45 down divided by 32 across
<b>52</b> A prime number	55 6 up plus 19 down	50 32 across plus 44 across





#### Across

 Two thousand eight hundred eighty-one more than 57 up
 Eighty-seven times a prime number
 Mean of 50 across and 22 across
 55 down plus 59 up
 Mean of 5 down and 51 down
 38 across plus 43 across
 Mean of 15 down and 26 down
 57 up divided by 23 up
 Mean of 44 across and 40 across
 42 down minus 18 across
 24 down minus 26 down

#### Up

7 16 across minus 22 across

8 51 down minus 33 across
9 Three-fifths of 17 up
12 A prime number
14 53 across divided by 56 down
17 54 down minus 33 across
19 32 down minus 47 across
21 Mean of 9 up and 44 across
22 Twice a prime number
23 57 up divided by 21 up
25 Mean of 7 up and 14 down

#### Down

1 Mean of 33 across and 39 up

- 2 21 across minus 33 across
- 3 42 across minus 21 up
- 4 32 up plus 17 up
- 5 40 across minus 31 across
- 10 36 up plus 35 up
- 11 Mean of 9 up and 22 across
- 12 Twenty-nine times 11 across
- 1434 down plus 27 across
- 15 57 up divided by 23 up
- **16** 61 up times 38 across

24 Thirteen thousand five hundred sixty-six more than 35 across 27 Mean of 39 up and 15 across 28 Mean of 41 up and 4 down 31 Three times a prime number 33 43 up minus 60 up **35** Fifteen times a prime number 38 Same as 39 across 39 18 across minus 22 across 40 Twice a prime number 42 A square 43 Twice 15 across 44 Mean of 17 across and 16 across 47 51 down plus 55 down 48 6 across minus 53 across

50 49 down minus 19 up

53 14 up times 1 down

down

Up (continued)

32 2 down plus 11 across

35 Nineteen times a prime number 36 Twenty-six times a prime number 39 Mean of 48 across and 7 up 41 Seventeen times a prime number 43 59 up minus 9 up 45 A prime number 46 Sum of digits in 51 up 48 Mean of 33 across and 21 up 49 Twenty-eight times a prime number 37 Six hundred eighteen less than 31 51 7 up times 5 down **52** Twice the result of 56 down minus 15 across 57 Thirty-three times a prime number 58 21 up plus 39 across 59 17 up plus 7 up

60 18 across plus 17 across

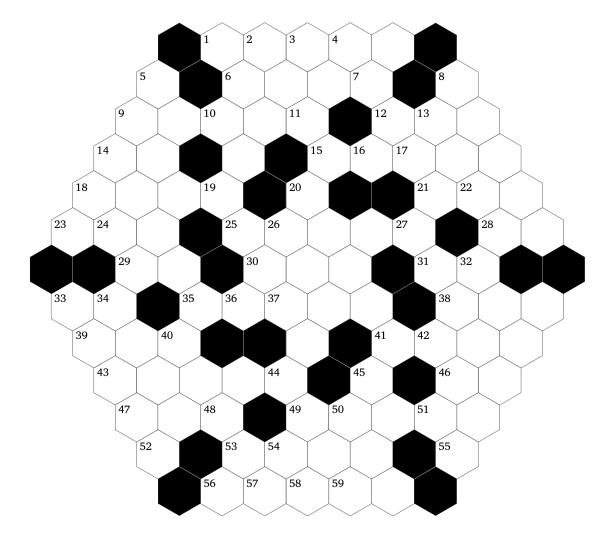
58 Twice the result of 33 down plus 20 61 16 down divided by 39 across

Down (continued)

18 35 across minus 1 across

19 Three times a prime number 20 First two digits are the same as 9 up 26 Mean of 33 across and 38 across 29 42 across plus 48 up 30 Seventy-three times 47 down 32 47 across plus 17 up 33 36 up plus 4 down 34 Eight times a prime number across 42 A square 47 59 up plus 33 across 49 50 across plus 17 up 51 A cube 54 Mean of 17 across and 5 down 55 Mean of 7 up and 43 up 56 Mean of 46 up and 13 across





#### Across

- **1** Twenty-one times a prime number
- 6 A prime number
- 98 down plus half of 32 down
- 12 21 across plus 33 across
- 1433 across reversed
- 15 19 up minus 58 up
- 18 A square
- 21 32 down minus 3 down
- 23 A prime number
- **25** Sixteen thousand six more than 19 **27** Fifty-eight times a prime number up

#### Up

- 7 26 down minus 52 up
- 10 Mean of 5 down and 21 across
- 11 Same as 18 down
- 16 38 across minus 52 up
- 17 51 down plus 32 down
- 19 Twenty thousand seventy-five less than 56 across
- 22 Mean of 56 up and 5 down
- 23 Sixty-five times a prime number
- 24 A prime number

#### Down

- 1 A prime number
- **2** Four times a prime number
- 3 51 down minus 29 across
- 4 Twenty-three times a prime number
- 5 Mean of 16 up and 14 across
- 8 Five times a prime number

9 42 down plus half of 14 across 10 A square

- 13 Forty-six times a prime number
- 14 Mean of 19 down and 44 up

28 52 up minus 30 across

29 28 across minus 45 down 30 25 across divided by 23 across 31 39 across divided by 10 down 33 31 across plus 10 down 35 Consecutive digits unordered 38 Mean of 37 up and 50 down

39 10 down times 43 up

41 Twice a prime number

43 51 up plus 57 up

46 48 up minus 5 down

47 A prime number

49 Seven times a prime number

531 across minus 20 down

56 Four thousand sixty-nine more than 59 Forty-six less than 52 up 25 across

#### Up (continued)

36 Three thousand five hundred forty- 18 Mean of 10 down and 17 up nine more than 14 down 37 A prime number

39 A prime number

42 6 across times 46 across

- 43 48 up minus 54 down
- 44 Forty-three times a prime number

47 Seventy-five times 33 across

- 48 Twice the result of 18 down minus 59 up
- four more than 34 down
- 52 42 down minus 16 up
- 55 Forty-one times a prime number
- 56 A square
- 57 Twice a prime number
- 58 A prime number

Down (continued)

- 19 A prime number
- **20** Eleven times a prime number
- 26 Thirty-two more than 18 down
- 27 Sixty-one times a prime number
- 32 21 across plus 22 up

**33** Twenty-one thousand eighty-seven less than 56 across

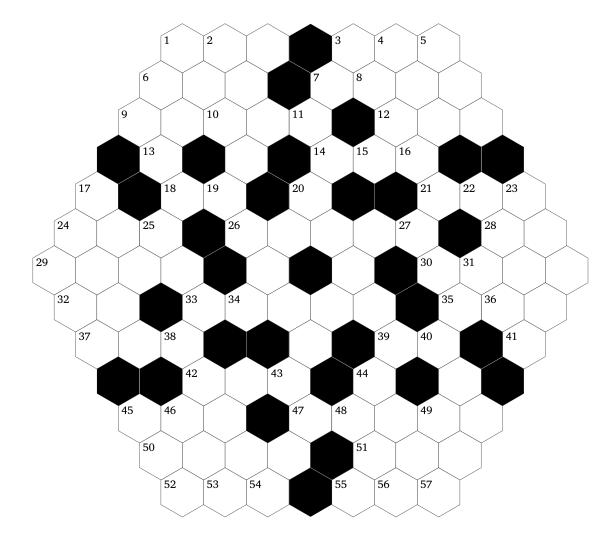
34 Two hundred seventy-one more than 41 across

- 51 One thousand five hundred twenty- 40 Seven thousand nine hundred fortyeight less than 20 down
  - 42 Mean of 37 up and 50 down
  - 44 Twice a prime number

45 A prime number

- 50 A prime number
- 51 A prime number
- 54 48 up minus 31 across





#### Across

1 Mean of 43 down and 36 up 3 45 down minus 55 across 6 Twice the result of 12 across minus 10 48 down minus 35 across 17 down 7 42 across times 27 up up 12 32 across plus 51 across 14 40 down plus half of 3 across 18 43 down plus 53 up 21 A cube 24 45 down reversed

#### Up

8 12 across minus 55 up **9** A square 11 11 down plus 45 down

9 Last three digits are the same as 16 13 Nine hundred eighty-four more than 7 across

15 54 up plus 52 across

16 Mean of 39 across and 37 across

19 Rearranged digits of 50 up

**27** 52 across minus 6 across

29 Mean of 48 down and 21 across

#### Down

1 22 down minus 19 up 2 23 down minus 11 down 3 Seven times a prime number

- 4 A square
- 5 50 up reversed
- 6 24 across minus 29 down
- 9 Mean of 35 across and 53 up
- 11 51 across divided by five
- 17 Mean of 6 across and 10 up
- **19** Eight thousand eight hundred thirty-nine more than 40 up

26 37 up plus 57 up 28 Mean of 39 across and 38 up **29** Nine times a prime number 30 Four times a prime number

- 32 52 across minus 35 across
- 33 Last two digits are the same as last two digits of 15 up
- 35 29 up minus 43 down
- 37 27 down plus 10 up
- 39 32 up minus 29 down
- 42 Mean of 52 across and 11 up
- 45 4 down plus 32 across
- 47 19 down minus half of 9 across
- 50 Ninety-one times a prime number
- 51 Mean of 25 down and 39 across
- 52 Mean of 6 across and 55 up
- 55 Twice the result of 41 up minus 32 57 41 up plus 28 across up

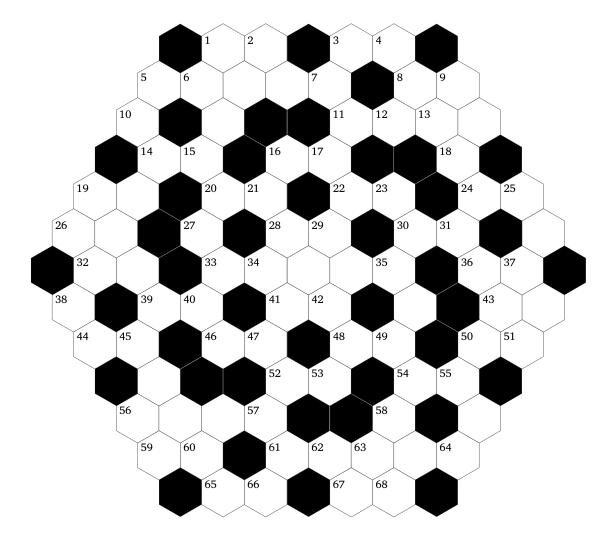
#### Up (continued)

32 Mean of 55 up and 42 across 34 Sixty-seven times a prime number 36 29 up plus 21 across 37 Seven thousand one hundred fortyeight less than 33 across 38 17 down minus 9 down 40 Sixty-one times a prime number 41 Mean of 40 down and 25 down 43 A prime number 48 A square 50 Twice the result of 1 across plus 43 40 41 up minus 49 down down 52 Mean of 13 up and 23 down 53 Three-fifths of 49 down 54 One-fourth of 30 across 55 27 up plus 52 across 56 32 up plus 11 up

#### Down (continued)

- 20 Mean of 38 down and 29 across 22 54 up plus 30 across 23 17 down plus 43 down 24 First two digits are the same as first two digits of 55 up 25 35 across plus 55 across 276 down plus 18 across 29 48 down minus 11 down 31 A prime number 38 Sixty-one times a prime number
- 43 32 across plus 27 up
- 44 Eight times a prime number
- 45 Twice a prime number
- 46 Mean of 23 down and 15 up
- 48 16 up plus 21 across
- 49 11 down minus 32 across





#### Across

1 10 down minus half of 45 up3 Mean of 58 down and 39 across5 Mean of 47 up and 12 up

8 Mean of 6 down and 9 down 11 Twenty times a prime number 14 63 down minus half of 60 up 16 37 down plus 25 down 19 22 across minus 13 up

**20** 30 across plus 26 down **22** 66 up plus 46 across

#### Up

6 17 down minus 49 up7 Mean of 22 across and 3 across10 A square

- 12 Mean of 21 up and 6 up
- 13 3 across minus 64 up
- 15 Twice a prime number
- 17 20 across minus 64 up
- **18** Twice the result of 4 down minus 38 up
- 21 26 down plus 42 up
- **26** 38 down minus 22 across

#### Down

1 60 up minus 26 up
2 26 across reversed
4 First two digits are the same as 31 up
6 Mean of 6 up and 21 up
7 26 across plus 32 across
9 28 across plus 62 down
10 49 down plus 23 down
15 Mean of 52 across and 45 up
17 49 down plus 45 up

19 36 across times 47 down

24 68 up minus 19 across

26 23 down minus 62 down 28 Mean of 60 up and 24 across 30 49 up plus 45 up 327 down minus 41 across 33 Nineteen times a prime number 36 18 up minus 59 up 39 46 across plus half of 49 down 41 36 across minus 62 down

43 62 down minus 40 down 44 59 up plus 40 up 46 42 up minus 41 across 48 38 down minus 49 down

50 31 up minus 7 down

- 52 Mean of 34 down and 35 up
- 54 A square
- 56 67 up minus 44 across
- 598 across minus 14 across
- 61 Last two digits are the same as 48 across
- 65 6 down plus 67 across
- 67 Mean of 62 down and 59 across

### Up (continued)

27 Mean of 1 across and 52 across

31 7 down plus 27 down 34 57 down minus 21 up 35 45 up minus 36 across 38 A prime number 40 32 across minus 13 up 42 Mean of 52 across and 24 across 45 Three-fifths of 18 up 47 First two digits are the same as 55 down 49 31 up minus 37 down 51 22 across minus 24 across 53 Mean of 48 across and 50 across 55 Three hundred ninety-eight more than 47 up 56 Half of 57 down, then subtract 26 up 57 Mean of 18 up and 57 down 59 41 across plus 1 down 60 Mean of 9 down and 49 down 64 32 across minus 67 across 66 65 across minus 2 down 67 Twice a prime number

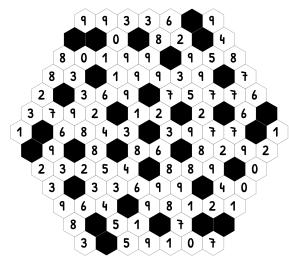
68 Same as 58 down

#### Down (continued)

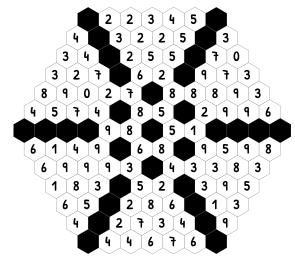
21 First two digits are the same as 59 across 23 47 down minus 59 across 25 24 across reversed 26 A square 27 55 down minus 3 across 29 Mean of 54 across and 16 across 31 68 up times 31 up 34 65 across minus 10 up 351 down minus 52 across 37 38 down minus 49 up 38 31 down divided by 58 down 40 42 up minus 34 down 45 Nineteen times a prime number 47 17 down plus 26 across 49 68 up minus 29 down 55 45 up plus 36 across 56 28 across minus 27 down 57 51 up plus 29 down 58 29 down plus 49 down 62 28 across minus 56 up 63 62 down plus 26 down

# **Solutions**

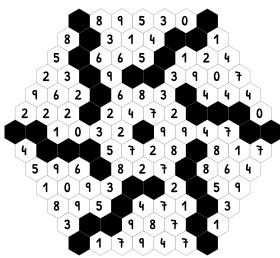
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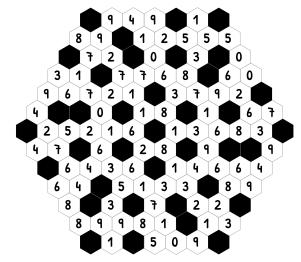




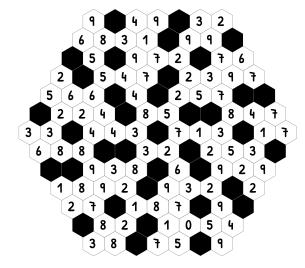


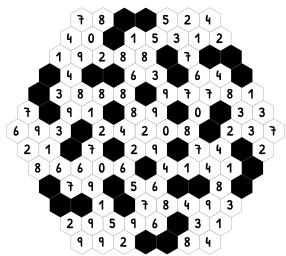




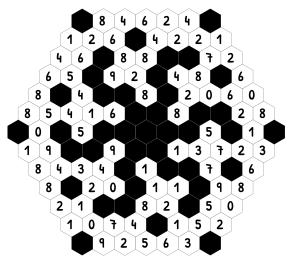


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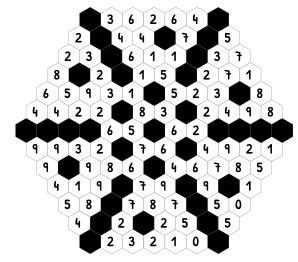




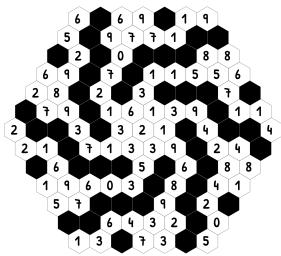
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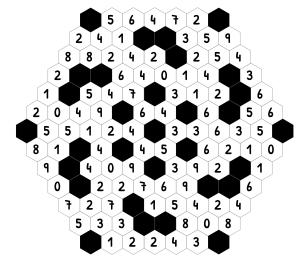




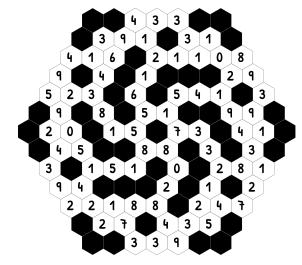


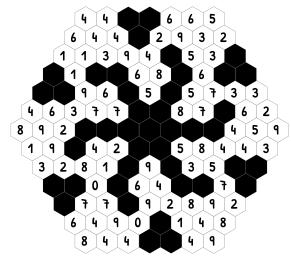
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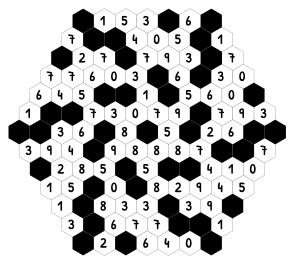




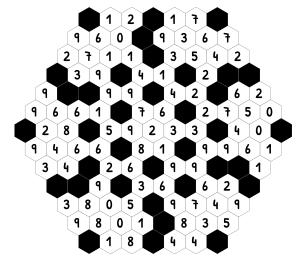
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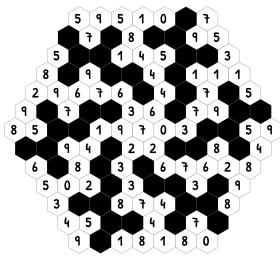


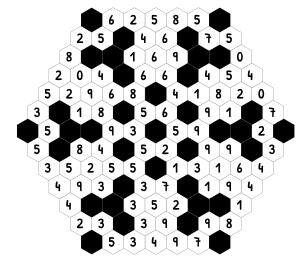




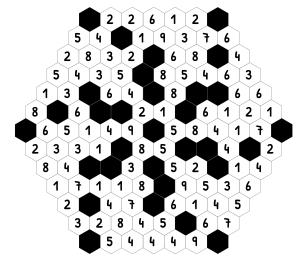


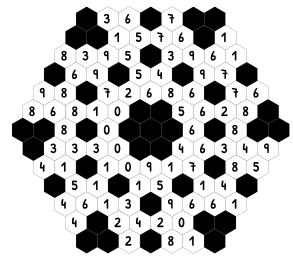
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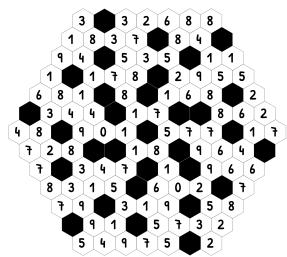




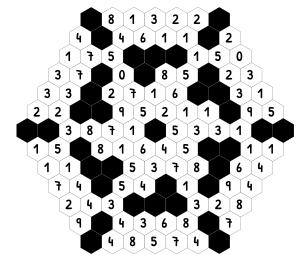
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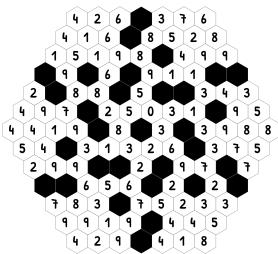


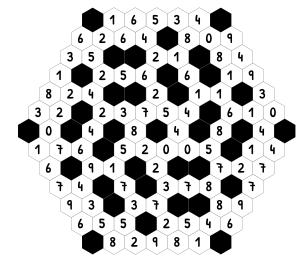




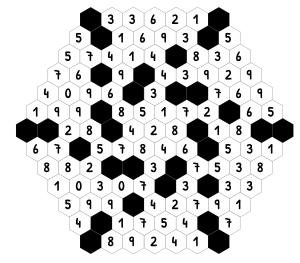


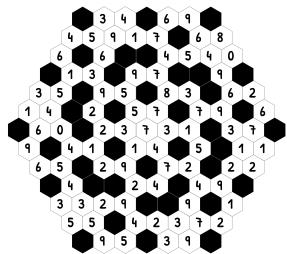
Puzzle 23





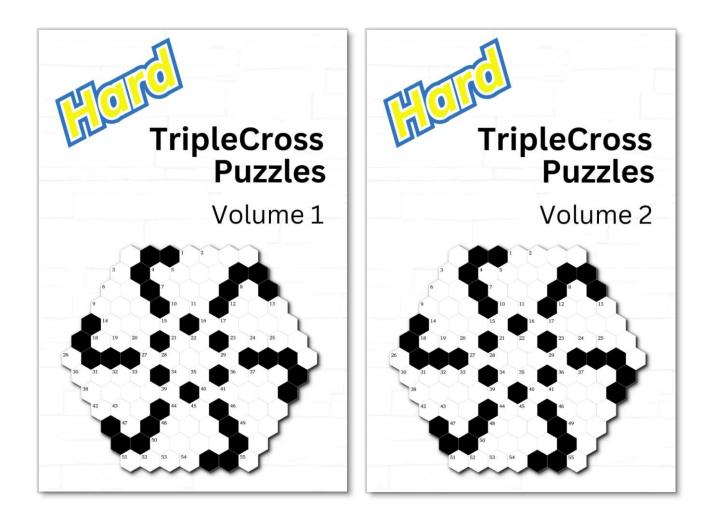
Puzzle 22





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# Acknowledgements

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